

Note on the Classification of CERAMBYCIDÆ, with descriptions of new species.

BY JOHN L. LE CONTE, M. D.

Since the publication of my essay on the Classification of our Cerambycidæ, in the Journal of the Academy, many species have been added to the literature of our fauna; and in restudying the material in my collection, I have noticed some characters not yet employed, which seem to render the definition and classification of the tribes more perfect. The general features of the arrangement proposed by me in the essay above mentioned have been adopted in many of the works recently published, but the results have not been improved by any important changes of system or characters.

A very excellent application of the system to the Cerambycidæ of the entire globe has been made by Mr. James Thomson in his work entitled "Essai d'une Classification de la Famille des Cerambycides;" the order of arrangement adopted by him is different from that used in my paper; commencing with the highest form, the Lamiidæ, he ends with the Prionidæ. The arrangement is probably more convenient than mine, but it is impossible to preserve even the most important affinities in a linear form. The tables given both by him and myself exhibit perfectly the relations of the larger divisions to each other and to other families.

The important character to which I wish to call attention in the present note is the granulation of the eyes. In certain tribes (e. g. Clytus) the leuses are exceedingly small, in others (e. g. Elaphidion) they are much larger; in the former case the eyes are said to be finely, and in the latter, coarsely granulated. This character is also observed in the Lamiidæ, and in both instances serves to define well marked tribes with greater ease and distinctness than any other character which has been observed.

Using this observation, to perfect our tables of tribes, (or groups, as I previously called them,) we obtain the following result.

LAMIIDÆ.

- I. Humeri rounded, wings wanting; (anterior coxal cavities closed, either rounded or angulated; eyes somewhat coarsely granulated:)—*Monilema*, &c. *Michthysoma*.
- II. Humeri distinct:—
 - A. Eyes coarsely granulated:
 - a. Anterior coxal cavities rounded, closed:—*Acanthoderus*, *Ædilis*, &c.; *Liopus*, *Leptostylus*, *Dectes*, &c.
 - b. Anterior coxal cavities angulated, closed:—*Pogonocherus*, *Eupogonius*, &c.; *Oncideres*, *Mesosa*, &c.; *Monochamus*, *Goës*, &c.; *Ptychodes*, *Dorcaschema*, &c.
 - B. Eyes finely granulated:
 - a. Anterior coxal cavities angulated, closed behind.
Front large, flat, frontal suture concave:—*Saperda*.
Front convex, frontal suture straight:—*Tetraopes*, *Oberea*, &c.
 - b. Anterior coxal cavities open behind:—*Dysphaga*.

CERAMBYCIDÆ.

No change is proposed in the *Lepturini* or *Spondyliini*; the eyes are finely granulated in all of our genera except *Centrodera Lec*. The remainder of the subfamily may be arranged thus:—

- I. Anterior coxal cavities angulated, closed behind; (eyes finely granulated):—*Heliomanes*, *Stenopteris*.
- II. Anterior coxal cavities rounded; maxillæ elongated, maxillary palpi short; (eyes finely granulated.)
Anterior coxal cavities closed behind:—*Callichroma*.
Anterior coxal cavities open behind:—*Rhopalophorus*.

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- III. Anterior coxal cavities rounded, open behind; maxillæ short, labial palpi normal.
- A. Eyes coarsely granulated:—*Distenia*, *Eburia*, &c.; *Elaphidion*, &c.; *Ibidion*.
- B. Eyes finely granulated:
Front short, oblique:
Femora slender, clavate:—*Ancylocera*.
Femora not clavate:—*Arhopalus*, *Stenosphenus*, *Mannophorus*, &c.;
Megaderus, *Dendrobias*, *Trachyderes*, *Stenaspis*, &c.; *Tylosis*, *Crossidius*, &c.
Front large, quadrate, vertical:
Femora not clavate:—*Tragidion*, *Purpuricen*.
Femora very clavate:—*Clytus*, *Euderes*.
- IV. Anterior coxal cavities angulated, open behind; maxillæ short, palpi normal.
- A. Anterior coxæ not transverse, eyes coarsely granulated:
Femora slender at base, suddenly clavate:—*Obrium*, &c.
Femora gradually clavate:—*Sclerocerus*, *Dryobius*, *Gracilia*, *Smodicum*, *Atimia*, *Opsimus*.
- B. Anterior coxæ transverse:
a. Eyes finely granulated:
Femora not clavate:—*Rosalia*.
Femora slender at base, almost suddenly clavate:—*Callidium*, &c.
Femora gradually but strongly thickened:—*Tetropium*, *Aseum*.
b. Eyes coarsely granulated:—*Criocephalus*.

Description of new species.

1. *Ædilis obliquus*, elongatus, cinereo-pubescent, nigro-variegatus, elytris costis tribus nigro-tesselatis parum elevatis, fasciisque duabus obliquis nigris ornatis, profunde minus parce punctatis. Long. .45—.53.

Kansas, New Mexico, Arizona and California. Of the same shape as our Eastern *Æ. obsoletus*, but readily distinguished by the less distant punctures of the elytra and the three elevated costæ; the 3d, 4th and 5th joints of the antennæ are clothed beneath with dense, short, very fine hair, as in *Æ. obsoletus*.

2. *Dectes texanus*, elongatus, niger, dense cinereo-pubescent, thorace latitudine fere longiore, spina haud divergente, lineam lateris recte continuant. Long. .31.

Texas, one specimen. This species resembles *D. spinosus*, (*Lamia spinosa* Say,) but is more slender, and the lateral spines near the base of the thorax do not diverge from the straight line of the sides.

I erroneously described the anterior coxal cavities of *D. spinosus* as being open behind; they are in reality closed, though much more narrowly than is usual in this tribe. Thomson (loc. cit. 14) seems to have considered this insect as *Heterocinerea Lec.*, (*Juglandis* Hald.) which belongs to a very different genus, allied to *Dorcaschema*.

3. *Liopus regularis*, elongatus, depressus, niger, pube cinerea brevissima dense vestitus, thorace maculis rotundatis 4 quadratim positis, elytris utrinque 2, 2, 1, 1 rotundatis nigerrimis ornatis; antennis, ore, femoribusque fulvis, his apice nigris; elytris parce subtiliter punctatis apice rotundatis, thorace spina laterali valde divergente. Long. .27.

Ohio; Mr. Ulke. This beautiful species is of the same form as *L. symmetricus*, but the lateral spine of the thorax is longer and more diverging.

4. *Pogonocherus nubilus*, nigro-piceus, nitidus, pube brevi densa cinerea irregulariter adpersus, thorace latitudine sesqui brevior, confertim punctato, 1862.]

lateribus spina acuta armatis, elytris antice sat dense grosse punctatis, apice rotundatis; antennis annulatis, corpore paulo longioribus. Long. '35.

Northern New York, on bass-wood; Mr. Ashton. This species differs in appearance from the others of the genus, and resembles in form a small *Graphisurus*; but the anterior coxal cavities are very distinctly angulated externally.

5. *Monohammus oculatus*, niger, pube brevi pallida parce irroratus, thorace confertim rugoso et punctato, latitudine paulo brevior, spina laterali acuta, elytris rude punctatis, macula rotundata atra utrinque pone medium ornatis. Long. '42.

Racine, Wisconsin; Dr. J. P. Kirtland. A very distinct and beautiful little species. The antennæ are nearly twice as long as the body.

6. *Monohammus marmoratus*, *Lamia marmorata* Randall; *Monohammus fautor* Lec.

This synonym is determined by reference to the original specimen.

7. *Tetrops jucunda*, elongata, nigra, nitida, pube erecta nigra longa vestita, capite thoraceque coccineis, hoc latitudine longiore parce punctulato, antice posticeque vage transversim impresso, macula dorsali ovali nigra ornato, elytris grosse subseriatim punctatis; pedibus totis nigris. Long. '33.

Middle States. Larger than *T. monostigma*, and easily known by the black legs.

8. *Leptura rufibasis*, elongata, nigra, subtiliter cinereo-pubescent, capite thoraceque confertissime punctatis, hoc latitudine longiore, antrorsum sensim angustato, lateribus modice rotundatis, cinereo-pruinosis, angulis posticis parvis acutis, elytris fere parallelis apice rotundatis, antice fortiter, postice subtilius punctatis, antennis fuscis articulo 1mo rufo, pedibus rufis, tarsis nigris; tibiis posticis femorumque apice nonnunquam nigris. Long. '25—'30.

Hudson's Bay Territory, about Methy Lake; Mr. R. Kennicott. Of the same size and form as *L. subargentata* Kirby, but differs by the red color of the legs and base of antennæ. In one specimen the hind tibiæ and the outer fourth of the hind thighs are black; in all the others seen the thighs and tibiæ are entirely red, and the tarsi alone dark.

9. *Leptura saucia*, elongata nigra, capite thoraceque dense punctulatis fulvo pubescentibus, hoc fulvo, macula magna dorsali nigricante, latitudine paulo brevior, convexo, antrorsum angustato, angulis posticis parvis acutis, elytris parallelis fortiter postice subtilius punctatis, breviter griseo-pubescentibus, apice rotundatis; antennis pedibusque nigris, femoribus anticis, mediorumque basi rufo-testaceis. Long. '25.

Middle States. Allied to *L. ruficollis* Say, but, besides the differences in color, the thorax is more finely and densely punctulate than in that species.

10. *Leptura ruficeps*, elongata nigra, parce griseo-pubescent, capite obscure sanguineo, thoraceque dense punctulatis, hoc latitudine paulo longiore, antrorsum angustato, lateribus late rotundatis, angulis posticis parvis acutis, elytris parallelis, fortiter, postice subtilius punctatis, apice rotundatis; antennis nigris, pedibus anticis rufis, posterioribus nigris, femoribus mediis basi rufis. Long. '27.

One specimen, upper Georgia. This species belongs to the same division as the two preceding. The front tibiæ and tarsi are slightly fuscous.

11. *Centrodera sublineata*, fusca, sordide pubescens, thorace confertim punctato, linea angusta dorsali lævi, antice posticeque constricto, apice angustiore, lateribus medio obtuse angulatis, elytris thorace sesqui latioribus, parallelis apice rotundatis, sat dense punctatis, sulcis obsoletis magis pubescentibus notatis; antennis corpore longioribus, articulis 3 et 4 conjunctis 5to haud longioribus. Long. '45—'53.

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Middle and Western States. *Centrodera* is readily distinguished among our Lepturide genera by the large coarsely granulated eyes. This species differs from the other two by the lateral tubercle of the thorax not being acute, and by the 3d and 4th joints of the antennæ being shorter.

12. *Toxotus Schaumi* Lec.

The males of this species are frequently reddish yellow, with only the elytra and antennæ black; the first joint of the antennæ is yellow and the tarsi are fuscous.

PYROTRICHUS. (Lepturini.)

Corpus elongatum lineare; caput longe pone oculos subito constrictum, fronte brevi verticali; oculi valde emarginati, subtiliter granulati; palpi articulo ultimo modice dilatato, campanulato. Thorax tuberculo acuto laterali armatus; elytra elongata parallela, præcipue postice fortiter marginata. Antennæ (maris) crassiusculæ, corpore paulo breviores, articulis 3io et 4to conjunctis 5to haud longioribus. Pedes mediocres, postici paulo longiores, tibiis calcaribus ad apicem sitis, tarsis posticis articulo 1mo sequentes duos æquante.

This genus is allied to *Encyclops*, but differs in the proportion of the joints of the antennæ, and also by the deeply emarginate eyes.

13. *P. vitticollis*, niger, opacus, capite scutello vittisque tribus thoracis læte fulvo-pubescentibus; elytris rude punctatis, thorace parum latioribus, margine postice et ad apicem reflexo. Long. .48.

California; Mr. Ulke. In each of the large punctures of the elytra is contained a very minute brown hair; the tip is feebly truncate.

14. *Elaphidion subpubescens*, elongatum lineare, pube parca pallida vestitum, testaceum, capite thoraceque fuscis, hoc cylindrico, latitudine longiore, rude sat dense punctatum, elytris parce antice fortiter punctatis, apice truncatis bispinosis; femoribus muticis, antennis articulis 3—5 spina brevi apicali armatis. Long. .65.

New Jersey; Mr. P. R. Uhler. Very different from our other species, and still more slender than *E. parallelum*.

15. *Heterachthes nobilis*, elongatus piceus, nitidus, pilis pallidis erectis parce vestitus, thorace latitudine sesqui longiore rude rugose punctato, antice posticeque transversim impresso, elytris parce fortiter punctatis, fascia transversa ad suturam interrupta ante medium, alteraque communi antice angulata pone medium pallidis ornatis. Long. .50.

Texas. Resembles in appearance *H. 4-maculatis*, but very different by its sculpture and the very distinct chevron-shaped band of the elytra.

16. *Stenosphenus lugens*, niger, thorace latitudine sublongiore, antrorsum angustato, lateribus rotundatis, nitido lævi, elytris vitta suturali angusta, alterisque utrinque duabus fere confluentibus punctatis et parce pubescentibus apice bispinosis. Long. .50.

Texas. Narrower than *S. notatus*; the elytra have the punctures arranged in three longitudinal bands; a narrow one at the suture, and two almost confluent on the disc; from the punctures proceed coarse pale hairs; the intervening spaces are smooth and glabrous. The spines of the antennæ are as in *S. notatus*. The feet are entirely black.

Oxoplus.

Corpus elongatum, haud convexum subtiliter parce pubescens, grosse punctatum; mandibulæ apice læte emarginatæ; antennæ sexus utriusque 11-articulatæ; oculi subtiliter granulati; thorax transversus, lateribus spina acuta armatus, dorso vix callosus; elytra apice subtruncata haud spinosa.

A new genus, allied to *Tylosis*, but differing by the antennæ having eleven
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joints, and by the lateral spine of the thorax. The species are red and black in color, and resemble in appearance *Purpuricenus*, which they replace in the interior regions of the continent.

17. *Oxoplus coralinus* læte coccineus, capite antennis pedibus metathoracis lateribus plagaque maxima communi elytrorum postica nigris; elytris fortiter sat dense punctatis. Long. .70—.80.

New Mexico; Mr. Ulke. The large common spot of the elytra extends from the middle to the tip along the suture, but the red along the margin reaches to within one-fifth of the tip.

18. *Oxoplus cruentus*, coccineus, capite antennis pedibus scutello elytris que nigris, his confertissime punctatis basi margineque laterali fere ad apicem coccineis. Long. .85.

Cape San Lucas; Mr. Xantus. Resembles the preceding, but the lateral spine of the thorax is larger; the elytra are more densely and finely punctured, and the black extends to within one-seventh of the base.

19. *Oxoplus marginatus*, subtus fusco-coccineus, supra niger, opacus, pube brevi helva sericea vestitus, thorace spinis rufo-tinctis, elytris confertissime punctatis basi margineque laterali fere ad apicem coccineis. Long. .95.

Cape San Lucas; Mr. Xantus. Differs from the preceding not only in color, but by the very obvious pubescence and by the punctures of the elytra towards the base being larger.

20. *Clytus approximatus*, ferrugineo-fuscus, subtiliter pubescens, thorace latitudine longiore, ovali, confertissime granulato-punctato, ad medium cariuulis transversis armato, altera utrinque prope basin; elytris apice oblique truncatis, fascia recta mox ante medium, altera obliqua approximata ad suturam angulata, tertia latiore ad dodrantem, scutelloque flavo-pubescentibus; femoribus posticis abdomine longioribus, vix spinosis. Long. .33—.45.

Kansas; Mr. Ulke. Allied in form and sculpture to *C. erythrocephalus*; the second elytral band commences on the side behind the middle, runs obliquely forwards nearly to the suture, when it is suddenly angulated and reaches the suture; the point of the angle approaches closely to the first band; body beneath banded with yellow hair.

21. *Clytus horridus*, linearis, fusco-piceus, cinereo-pubescens, thorace latitudine fere sesqui longiore, subcylindrico, dorso carinulis acutis 6, alteraque utrinque ante basin armato, minus subtiliter granulato, granulis punctigeris; elytris apice oblique truncatis, basi, fascia angusta sæpe interrupta vel obsoleta ante medium, altera angulata mox pone medium, tertiaque obliqua ad dodrantem albo-pubescentibus, femoribus posticis maris abdomine longioribus, feminae brevioribus. Long. .30—.40.

Middle States. The middle band makes an acute angle on each elytron, the apex being directed towards the base. The suture is more or less clothed with white pubescence; beneath a white spot is seen each side of the metasternum. This species belongs near *C. leucozonus*.

22. *Pteroplatus? floridanus*, niger opacus, supra rude punctatus, thorace fulvo, vittis 3 nigris, dorsali latiore, latitudine brevior, rotundato, parum convexo; elytris thorace paulo latioribus, sutura margine costisque utrinque 3 elevatis, his postice obsoletis; basi margineque externo læte fulvo; antennis corpore duplo brevioribus, haud cristatis, articulo 5to 4to longiore, 11mo simplici, apice subacuto. Long. .37.

Florida; Mr. Edward Norton. The anterior coxæ are not transverse, and their cavities are very slightly angulated externally, about as much so as in *Atimia*.

23. *Asemum asperum* Lec. has the eyes prominent, and coarsely granulated

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as in *Criocephalus*, but much more emarginate than in the other species of that genus. In the latter respect, however, *C. australis* (*Asemum australe* Lec.) is an intermediate form.

24. *Prionus innocuus*, rufo-piceus, nitidus, thorace modice punctato, latitudine triplo brevior, angulis omnibus valde rotundatis, lateribus rotundatis, paulo undulatis, elytris thorace fere sesqui brevioribus, latitudine vix sesqui longioribus, sat fortiter punctatis, apice singulatim rotundatis; antennis (♀) 13-articulatis. Long. .90.

New Mexico; Mr. Ulke. More robust in form than any other species known to me; the eyes are of the same size as in *P. integer* Lec.

Synopsis of the MORDELLIDÆ of the United States.

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In investigating the numerous species of this family contained in our fauna, I have recognized other genera, in addition to those noted by me in the Smithsonian Contributions, in my paper on the Coleoptera of Kansas and New Mexico. I have also become convinced that the genus *Sphalera* established upon *Mordella melana* Germ., is not tenable, the relative proportion of the outer joints of the antennæ being a specific rather than a generic character.

With these changes, our genera may be arranged in two tribes, as follows :

- A. Abdomen without anal prolongation; claws not cleft; hind coxæ moderate.....ANASPINI.
 Anterior and middle tarsi with 4th joint equal to 3d;
 Antennæ long, scarcely thickened externally.....DICLIDIA.
 Antennæ shorter, last five joints broaderPENTARIA.
 Anterior and middle tarsi with 4th joint very small.....ANASPIS.
- B. Abdomen, with the last dorsal segment prolonged, conical; claws cleft and pectinate; hind coxæ very large.....MORDELLINI.
 - a. Hind tibiæ with a small subapical ridge; eyes finely granulated;
 Scutellum emarginate behind, eyes not reaching the occiput.....TOMOXIA.
 Scutellum triangular, eyes reaching the occiput;
 Anal style emarginate, last joint of maxillary palpi very transverse, securiform.....GLIPA.
 Anal style entire, last joint of maxillary palpi triangular or slightly securiform.....MORDELLA.
 - b. Hind tibiæ and tarsi with oblique ridges on the outer face; eyes coarsely granulated;
 Hind tibiæ without subapical ridge.....GLIPODES.
 Hind tibiæ with the subapical ridge distinct.....MORDELLISTENA.

Tribe 1. ANASPINI.

The hind coxæ are somewhat larger in *Anaspis* than in the other two genera, and are shaped as in *Mordella*, though by no means as largely developed as in that genus. The characters of the tribe are:—

Hind coxæ not or but slightly dilated; tibiæ slender, claws not cleft nor serrate; last dorsal segment not prolonged; 6th ventral segment not visible in *Anaspis*, visible in *Pentaria* and *Diclidia*; eyes oval, narrowly emarginate; antennæ inserted very near the eyes, not serrate. Body transversely strigate, pubescent. The species are found on plants.

DICLIDIA.

The only species known to me is *Anaspis laetula* Lec., which differs 1862.]